Mario E. Franciscolo (*)

REVISION OF *COTHURUS* CHAMPION 1891 (COL. MORDELLIDAE) [1])

Mr. Carlo Bordon (Maracay, Venezuela) submitted some Mordellidae for identification; the material contains one male specimen of a *Cothurus* Champion 1891 from Venezuela.

By courtesy of Miss C.M.F. von Hayek and Mr. R.D. Pope (British Museum, N.H.) I was given the opportunity to study one ♂ and one ♀ syntypes of *Cothurus iridescens* Champ. 1891:259; the syntypes present now in B.M. are four; the fifth syntype mentioned by Champion is missing, perhaps exchanged for other material long ago (R.D. Pope i.l.).

The venezuelan species is new; this is therefore a good occasion for revising the genus, which apparently is so far known only after the four syntypes of *iridescens* in the B.M. and the unique holotype of the new species.

The position of *Cothurus* in the system of Mordellidae has been corrected in a previous work (Franciscolo 1984).

Cothurus Champion 1891:259

Csiki 1915:4; Ermisch 1950:39, 48; Franciscolo 1957:221; 1965:344; 1984:79-83.

Type species: *iridescens* Champion l.c. (Mexico).

Distribution: Mexico (the type species) and Northern Venezuela, Estado Miranda (the new species herewith described). So far, a strictly bibasic genus.

D i a g n o s i s (integrating Champion's accurate description). Form anaspoid. Neither a setigerous frontal pit nor a medial protuberance or

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[1]) 53rd contribution to the knowledge of Mordellidae.

pit at the occipital margin of head. Eyes neither emarginate nor hypochranially expanded, sparsely and shortly pubescent, very finely faceted (each cornea 0.010 mm in diameter: type G, FRANCISCOLO 1962: 108). Antennae in both sexes not flabellate, articles 5-9 as long as or hardly shorter than 4, last article not distally emarginate (figs. 13-15). Maxillary palpi in both sexes of type B, fig. 21 (FRANCISCOLO 1957:216).

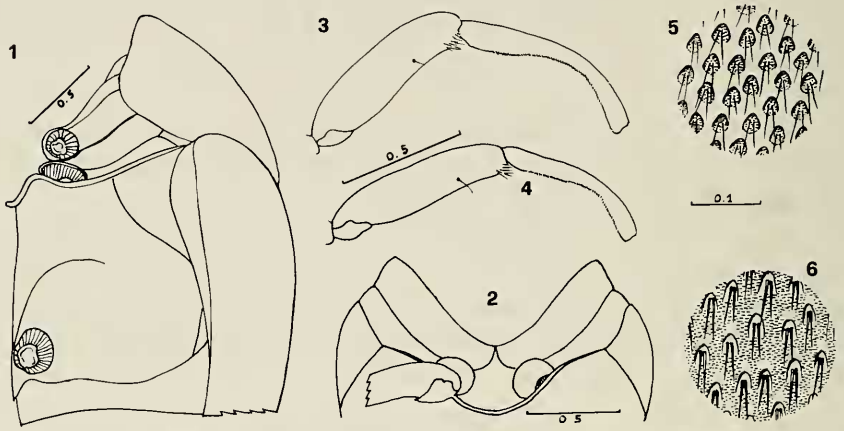

Fig. 1-6. 1: meso- and metathorax, left side, diagrammatic, *Cothurus iridescens* Champ., ♂ syntype; 2: same, ventrally, pars; 3: same, left front femor and tibia; 4: same, *bordoni* n. sp. holotype; 5: *iridescens*, pattern of pronotal sculpture; 6: same, central part of left elytron. Scale in mm (also in figures 7-18, 19-23 and 25-31).

Galeae much shorter than one half of head, longer and broader than laciniae, not spatulate (fig. 21). Paraglossae strongly expanded and spatulate (fig. 24). Hind margin of pronotum with a broad, flat, moderately protruding median lobe. Scutellum (figs. 22-23) trapezoidal, its hind margin narrowly protruding. Mesocoxal cavities widely separated from one another by a space much wider than the diameter of each cavity; the transverse meso-matasternal keel, mentioned by Champion, l.c., is shown in fig. 1-2; metepisterna and elytral epipleurae as in fig. 1. Elytra almost totally concealing the abdominal terga, including pygidium, separately rounded at apex. Hind wings fully developed. Metatrochanters not acuminate distally; metacoxal process moderately bilobed. Pro- and mesotarsi with articles 1-4 of increasing width, the 4 one more or less deeply emarginate, not bilobed (fig. 16-17). Protibiae strongly bent in both sexes; profemora and protibiae without spines at their inner side (fig. 3-4). Mesotibiae shorter than mesotarsi. Metatibiae with

two pubescent, obconical, not serrate, unequal apical spurs; preapical ridge normally developed; one dorso-lateral ridge all along their outer side; no dorsal ridges on metatarsal articles (fig. 18). All claws strongly dentate; basipulvilla of front claws spiniform, moderately hairy (fig. 8); those of hind claws longer than the claw, brush-like, with distal hairs apically clavate (fig. 7). Pygidium triangular equilateral, hardly longer than hypopygium, of the *Xanthoconalia* type (Franciscolo 1943:293). Paramera strongly asymmetrical, of type C (Franciscolo 1957:225), fig. 25-29. 8th introflected ♂ urosternon more or less distally emarginate, of the *Mordella* type (ibid.: 222).

Affinities: There is no need to repeat the comments and the key settling the position of *Cothurus* previously published (Franciscolo 1984:81-83) in this same review. *Cothurus* shows a degree of specialization similar, though less exaggerated, to that met with in *Boatia* (l.c.); though in the unique ♂ syntype of *iridescens* no teleuto-

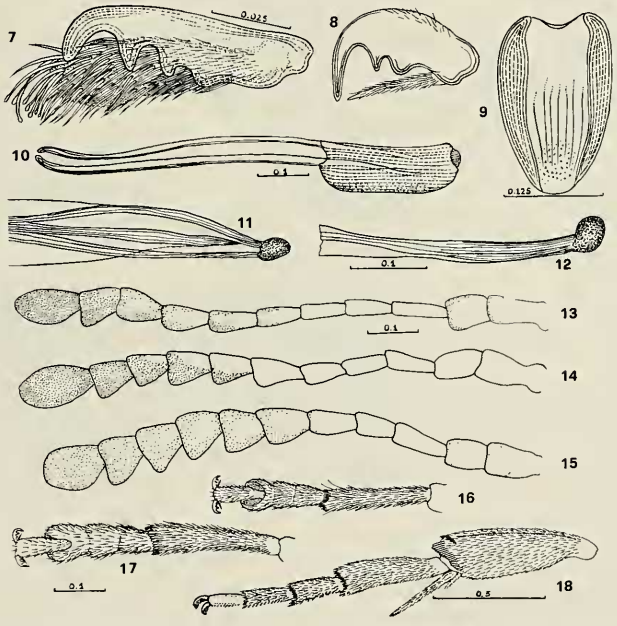

Fig. 7-8. 7: hind inner claw, *iridescens* ♂; 8: front inner claw, *bordoni* ♂; 9: 9th introflected urosternon, *iridescens* ♂; tubular process of phallobase, *bordoni*; 11: apex of penis, ventrally, *bordoni*; 12: same, from right; 13: right antenna, *iridescens* ♂; 14: same, *bordoni* ♂; 15: same, *iridescens* ♀; 16: right protarsus, *bordoni* ♂; 17: same, *iridescens* ♂; 18: right hind leg, *iridescens* ♂.

spores of Protobasidiomycetes were noted in the proctodeal vessels, the whole morphological layout (mainly the meso-metasternal keel, the protibiae strongly bowed invards and the mouth parts) suggests that it is specialized for scraping, heaping and ingesting molds on leaf surface, like *Boatia* Franc. 1984.

Unfortunately no bionomical information is available on the circumstances of collecting and the environment of the very few specimens known; the extreme rarity of *Cothurus* in the large collections so far examined does not contradict the hypothesis that *Cothurus* is a canopy dweller. The type species was collected at Cordoba, Estado de Vera Cruz (S.E. Mexico), well within the northern limit of tropical rain forest belt of the Golfo de Campeche (which, according to RICHARDS 1964:10-14, reaches the southern limit of Estado Tamaulipas, about 100 km south of Tropic of Cancer); the other species to be herewith described was taken out of the evergreen tropical rain forest, presumably in an upland deciduous formation, in Northern Venezuela.

Cothurus iridescens Champ.

CHAMPION 1891:260, Tab. XI fig. 7-7a; CSIKI 1915:4; ERMISCH 1950:48; FRANCISCOLO 1984:81.

Material examined: 1 ♂ and 1 ♀ syntypes, labelled « Cordoba / Mexico Sallé Coll. / *Mordella iridescens* Chev. apud Sallé / *Cothurus iridescens* Ch. / B.C.A. Col. IV. 2, *Cothurus iridescens* Champ. », both in the B.M. (N.H.) with other two syntypes.

Redescription. I only integrate Champion's description with some additional information.

Dimensions (mm): ♂ syntype, head 0.9 x 1.5; pronotum 1.1 x 1.8; elytra 2.3 x 1.7; total length 4.3; pygidium 1,4 x 1.6; maximum thickness 1.75 between tip of metacoxal process and elytral dorsum; ♀ syntype, head 1.1 x 1.6; pronotum 1.1 x 1.9; elytra 2.5 x 1.9; total length 4.7; pygidium 0.7 x 1.0.

Sculpture of head consisting of small, regularly spaced and deep round points, interspaces glossy; on pronotum and elytra the sculpture is quite unusual (fig. 5 and 6 respectively), each point with two short and erected setae, interspaces on pronotum glossy, on elytra transversely shagreened. On scutellum there are very few small and round points with one seta each, interspaces transversely shagreened (fig. 22).

Both eyes occupy almost one third of total cranial surface; temporal fringe absent, temporal edge very moderately protruding. ♂ labial palpi and maxilla as in fig. 19 and 21. ♂ paraglossae as in fig. 24. Antennae (♂ fig. 13, ♀ fig. 15) very short, 1 mm long (as long as head). Marginal edge of pronotal sides not dilated at the anterior angles, obsolete shortly before them; anterior angles obtuse (120°), totally rounded off at vertices; sides in lateral view regularly convex, basal angles square, not rounded off at vertices. Elytra 1.4 (♂) - 1.3 (♀) times as long as their combined breadth at shoulders, strongly convex, basally rather parallelsided, strongly attenuated after their basal third (♂) or half (♀). Py-

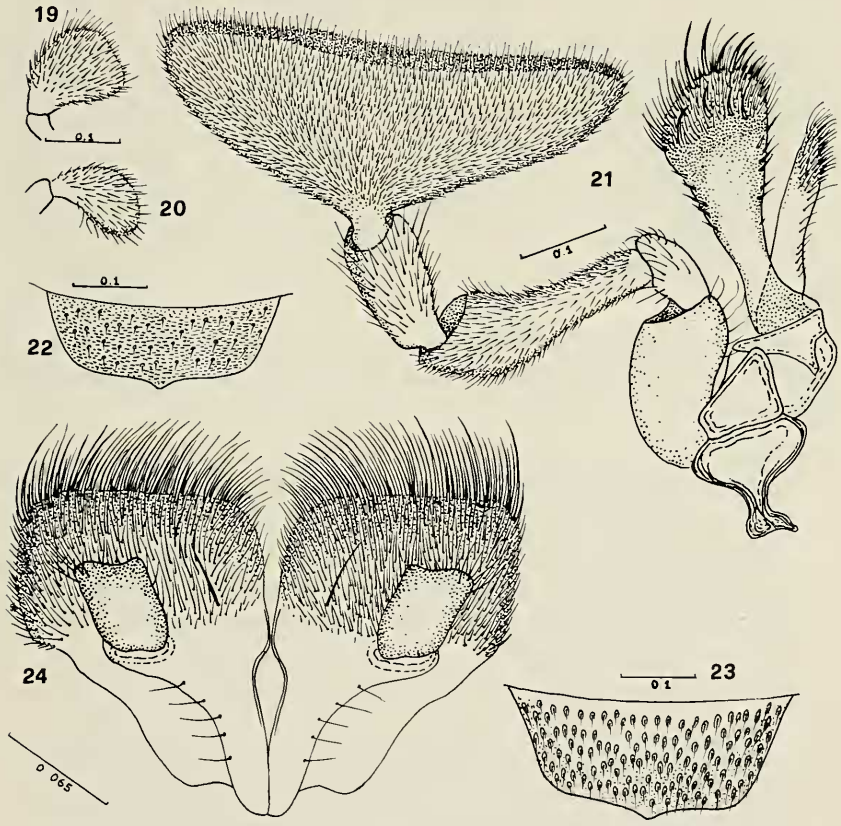

Fig. 19-24. 19: distal article of left labial palpus, *iridescens* ♂; 20: same, *bordoni*; 21: left maxilla, dorsally, *iridescens* ♂; 22: scutellum, *iridescens* ♂; 23: same, *bordoni* ♂; 24: paraglossae, dorsally, *iridescens* ♂.

gidium 1.6 (♂)-1.3 (♀) times as long as hypopygium. Ratios of abdominal sterna: ♂ 7:4:3:3:10; ♀ 6:3:2:3:6. Paramera, phallobase, ♂ introflected 8 urosternon in fig. 25, 26, 28, 30; ♂ 9 introfl. urosternon in fig. 9. Protarsi of ♂ as in fig. 17; those of ♀ of similar structure; the same layout in mesotarsi of both sexes; metatibiae and metatarsi (♂) as in fig. 18, the inner spur of metatibiae 3.6 times as long as the outer one and 0.7 times as long as basitarsus. Tarsal ratios: ♂ ant. 20:5:4:6:8, ♀ 22:8:5:6:8; middle ♂ 21:9:4:4:8, ♀ 20:6:5:2:4; post. ♂ 17:9:7:5, ♀ 25:11:11:8.

Cothurus bordoni n. sp.

Material examined: 1 ♂ holotype labelled « Alpes de Tuy - Parque Nacional Guatopo - m. 400 - Estado Miranda (Northern Venezuela) 31.3.1968 Bordon leg. »; accepting ICZN recommendation 72D the holotype is deposited in a Museum (MSNG, Genova).

Description. Dimensions (mm): head 0.7 x 1.3; pronotum 1.0 x 1.55; elytra 2.2 x 1.5; total length 3.9; pygidium 0.6 x 0.7; maximum thickness between tip of metasternal process and dorsum of elytra 1.4.

Being the species quite close and similar to *iridescens* I prefer to supply a key of identification, rather than giving a conventional description:

1 (2) Antennal articles 6-8 distally rather expanded, twice as long as broad (fig. 14); penultimate article of protarsi rather deeply and broadly excavate, the second article much shorter than the first one (fig. 16); protibiae as long as the profemora (fig. 3); second article of maxillary palpi 2.4 times as long as the third one; last article of labial palpi not flattened at tip, subclavate (fig. 20); scutellum (fig. 23) with dense, deep, broad, ovally aciculate points, with glossy interspaces; left parameron as in fig. 17; right parameron with the ventral branch densely and broadly hairy at its base, without a spiny area (fig. 29); 8th introflected urosternon very deeply excavate distally, with two narrow hairy areas at its apical expansions (fig. 31). Length 3.9 mm. Northern Venezuela (Est. Miranda) ..... *bordoni* n. sp.

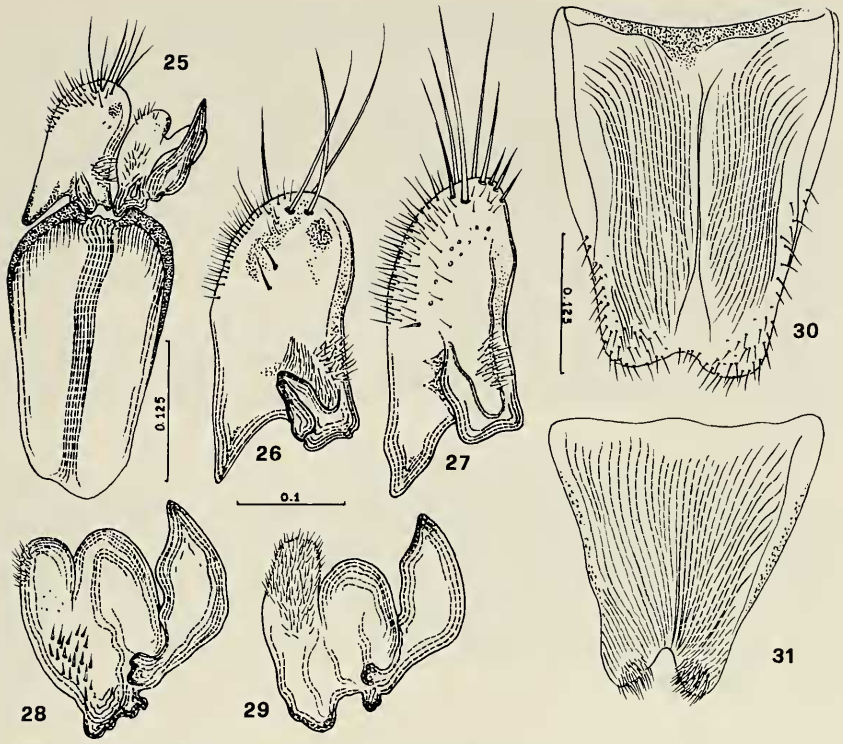

Fig. 25-31. 25: phallobase with paramera attached, dorsally, *iridescens*; 26: left parameron, dorsally, same; 27: same, *bordoni*; 28: right parameron, *iridescens*; 29: same, *bordoni*; 30: 8th introflected urosternon, ♂, *iridescens*; 31: same, *bordoni*.

2 (1) Antennal articles 6-8 distally not expanded, much more than twice longer than broad (fig. 13); penultimate article of protarsi narrowly and briefly excavate; second article as long as the third one (fig. 17); protibiae longer than the profemora (fig. 3); second article of maxillary palpi less than twice as long as the third (fig. 21); labial palpi with last article flattened at tip, subsecuriform (fig. 19); scutellum (fig. 22) with scattered, small, not aciculate round points, with transversely shagreened interspaces; left parameron as in fig. 27; right parameron with its ventral branch very moderately hairy and with a broad spiny area at its base (fig. 28); 8th introflected urosternon very briefly emarginate distally, its lateral expansions provided with an extended marginal series of spiny setae

(fig. 30); Length 4.3 mm. Mexico (Est. Vera Cruz) .....
..... *iridescens* Champion 1891.

All other characters (including the iridescent coloration and the peculiar pronotal and elytral sculpture) agree with those of Champion's species; inner claw of ant. pretarsi in fig. 8; tubular process of phallobase fig. 10; penis fig. 11 and 12. Tarsal ratios: ant. 17:5:3:5:8, middle 7:5:2:2:2, post 14:6:6:5. The relatively minute differences versus *iridescens* (especially in fore legs, scutellum, antennae and genital sclerites) justify the separation of *bordoni* as a different species.

Derivatio nominis. The species is named after its collector, the distinguished Venezuelan entomologist Carlo Bordon (Maracay).

Note. In dissecting the insect for the study of genital sclerites the abdomen appeared to be almost entirely filled in by an apodous, flat and oval (0.35 x 0.20 mm) larva, evidently of an Hymenopteran, perhaps a Braconidae-Euphorinae, some of which are known to parasitize Coleoptera (GRANDI 1951:999) and Mordellidae as well (G. Viggiani i.l.); it is preserved in slide with the holotype, though not in very good conditions.

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REFERENCES

CHAMPION C.G., 1891 (1889-1893) - Insecta Coleoptera Heteromera - Biol. Centr. Amer., Taylor & Francis ed., London, 4, 2: I-X + 1-494, 21 colour pl.

CSIKI A., 1915 - Mordellidae, in Coleopterorum Catalogus - Ed. a S. Schenkling, Berlin, 63: 1-84.

ERMISCH K., 1950 - Die Gattungen der Mordelliden der Welt - *Ent. Blätter*, Krefeld, **45-46** (1): 34-92.

FRANCISCOLO M.E., 1943 - Nuovi generi e nuove specie di Mordellidi delle collezioni del Museo Civico di Storia Naturale di Genova - *Annali Mus. civ. St. nat. G. Doria*, Genova, **61**: 290-301, 3 fig.

— —, 1957 - Coleoptera, Mordellidae, a monograph of South African Genera and Species. I. Morphology, subfamily Ctenidiinae and tribe Stenaliini - South Afr. An. Life, Uppsala, 4:207-291, 29 gr. of fig.

— —, 1962 - On some Mordellidae and Scraptiidae from Angola - *Publ. cult. Co. Diam. Ang.*, Lisboa, **56**: 95-128, 16 gr. of fig.

— —, 1965 - Coleoptera, Mordellidae, a monograph of South African Genera and Species, 2. Tribe Mordellini - South Afr. An. Life, Lund, 11: 344-468, 55 gr. of fig.

— —, 1984 - About a new fungus-eating Mordellid-beetle from Ecuador - *Annali Mus. civ. St. nat. G. Doria*, Genova, **85**: 79-93, 33 fig.

GRANDI G., 1951 - Introduzione allo studio dell'entomologia, Edizioni Agricole, Bologna, 2. Endopterigoti: I-XIII + 1-1332, 1198 fig.

RICHARDS P.W., 1964 - The tropical rain forest; an ecological study - Cambridge Univ. Press: I-XVII + 1-430, 41 fig., 15 pl.

RIASSUNTO

Viene revisionato il genere *Cothurus* Champ. 1891, integrando la ottima descrizione originale, ridescrivendo su due sintipi *C. iridescens* Champ. (Messico, Stato di Vera Cruz) e descrivendo una seconda specie, *C. bordoni* n. (Venezuela, Stato Miranda).

SUMMARY

The genus *Cothurus* Champion 1891 is revised, integrating the excellent original description; *C. iridescens* Champ. (Mexico, Estado Vera Cruz) is redescribed on two syntypes and a second species, *C. bordoni* n. (Venezuela, Estado Miranda), is described.